



**DEPARTMENT OF TRANSPORTATION**

**National Highway Traffic Safety Administration**

**[Docket No. NHTSA-2017-0021; Notice 1]**

**Gillig, LLC, Receipt of Petition for Decision of Inconsequential Noncompliance**

**AGENCY:** National Highway Traffic Safety Administration (NHTSA), Department of Transportation (DOT).

**ACTION:** Receipt of petition.

**SUMMARY:** Gillig, LLC (Gillig), has determined that certain model year (MY) 1997-2016 Gillig low floor buses do not fully comply with Federal Motor Vehicle Safety Standard (FMVSS) No. 108, *Lamps, Reflective Devices, and Associated Equipment*. Gillig filed a noncompliance report dated February 24, 2017. Gillig also petitioned NHTSA on March 24, 2017, and amended it on May 10, 2017, for a decision that the subject noncompliance is inconsequential as it relates to motor vehicle safety.

**DATES:** The closing date for comments on the petition is **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

**ADDRESSES:** Interested persons are invited to submit written data, views, and arguments on this petition. Comments must refer to the docket and notice number cited in the title of this notice and submitted by any of the following methods:

- Mail: Send comments by mail addressed to U.S.  
Department of Transportation, Docket Operations, M-30,  
West Building Ground Floor, Room W12-140, 1200 New  
Jersey Avenue, SE, Washington, DC 20590.
- Hand Delivery: Deliver comments by hand to U.S.  
Department of Transportation, Docket Operations, M-30,  
West Building Ground Floor, Room W12-140, 1200 New  
Jersey Avenue, SE, Washington, DC 20590. The Docket  
Section is open on weekdays from 10 am to 5 pm except  
Federal Holidays.
- Electronically: Submit comments electronically by  
logging onto the Federal Docket Management System  
(FDMS) website at <https://www.regulations.gov/>. Follow  
the online instructions for submitting comments.
- Comments may also be faxed to (202) 493-2251.

Comments must be written in the English language, and be no greater than 15 pages in length, although there is no limit to the length of necessary attachments to the comments. If comments are submitted in hard copy form, please ensure that two copies are provided. If you wish to receive confirmation that comments you have submitted by mail were received, please enclose a stamped, self-addressed postcard with the comments. Note that all comments received will be posted without change to

<https://www.regulations.gov>, including any personal information provided.

All comments and supporting materials received before the close of business on the closing date indicated above will be filed in the docket and will be considered. All comments and supporting materials received after the closing date will also be filed and will be considered to the fullest extent possible.

When the petition is granted or denied, notice of the decision will also be published in the Federal Register pursuant to the authority indicated at the end of this notice.

All comments, background documentation, and supporting materials submitted to the docket may be viewed by anyone at the address and times given above. The documents may also be viewed on the Internet at <https://www.regulations.gov> by following the online instructions for accessing the dockets. The docket ID number for this petition is shown in the heading of this notice.

DOT's complete Privacy Act Statement is available for review in a Federal Register notice published on April 11, 2000, (65 FR 19477-78).

**SUPPLEMENTARY INFORMATION:**

**I. Overview:** Gillig, LLC (Gillig), has determined that certain model year (MY) 1997-2016 Gillig low floor buses do not fully comply with paragraph S7.1.1.13.1 of FMVSS No. 108, *Lamps, Reflective Devices, and Associated Equipment*. Gillig filed a

noncompliance report dated February 24, 2017, pursuant to 49 CFR part 573, *Defect and Noncompliance Responsibility and Reports*.

Gillig also petitioned NHTSA on March 24, 2017, and amended it on May 10, 2017, pursuant to 49 U.S.C. 30118(d) and 30120(h) and 49 CFR part 556, for an exemption from the notification and remedy requirements of 49 U.S.C. Chapter 301 on the basis that this noncompliance is inconsequential as it relates to motor vehicle safety.

This notice of receipt of Gillig's petition is published under 49 U.S.C. 30118 and 30120 and does not represent any agency decision or other exercise of judgment concerning the merits of the petition.

**II. Buses Involved:** Approximately 41,714 MY 1997-2016 Gillig low floor buses, manufactured between December 31, 1997, and February 3, 2017, are potentially involved.

**III. Noncompliance:** Gillig stated that it installed six different generations of turn signal assemblies in the subject buses; however, after receiving two complaints that their Generation 7 turn signal assemblies were not sufficiently visible, Gillig and the turn signal manufacturer went back and tested the previous generations to see if they met the requirements of FMVSS No. 108. Test results for generations 1 through 6 of the turn signal assemblies showed that they do not

meet all the minimum photometry requirements of paragraph S7.1.1.13.1 of FMVSS No. 108.

**IV. Rule Text:** Paragraph S7.1.1.13.1 of FMVSS No. 108, states, in pertinent part:

S7.1.1.13 Photometry

S7.1.1.13.1 When tested according to the procedure of S14.2.1, each front turn signal lamp must be designed to conform to the base photometry requirements plus any applicable multipliers as shown in Tables VI-a and VI-b for the number of lamp compartments or individual lamps and the type of vehicle it is installed on.

**V. Summary of Gillig's Petition:** Gillig described the subject noncompliance and stated its belief that the noncompliance is inconsequential as it relates to motor vehicle safety.

In support of its petition, Gillig submitted the following reasoning:

- 1. Analysis:** For front turn signals, the FMVSS No. 108 photometry requirements provide that "when tested according to the procedure of S14.2.1, each front turn signal lamp must be designed to conform to the base photometry requirements plus any applicable multipliers<sup>1</sup> for the number of lamp compartments or individual lamps and the type of vehicle it is installed on." See FMVSS No. 108, S7.1.1.13.1.

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<sup>1</sup> All of the designs of the turn signal assemblies employ a reflector. Since the spacing from the geometric centroid of the turn signal to the lighted edge of the lower beam of the headlamp is greater than 100 mm, a multiplier is not applicable. (FMVSS No. 108, S7.1.1.10.3, S7.1.1.10.4(a)).

A front turn signal lamp meets the photometry requirements of FMVSS No. 108 if it: (1) meets the minimum photometric intensity ("PI") requirement in each of the five test groups, (2) none of the values for the individual test points are less than 60% of its own minimum PI value, and (3) the minimum PI value between test points is not less than the lower specified minimum value of the two closest adjacent test points on a horizontal or vertical line. Stated another way, an individual test point may be up to 40% below its minimum PI value as long as the group in which it is contained achieves the overall group minimum PI value. Based on this approach, even if the turn signal did not meet the minimum photometry requirements at multiple individual test points, the assembly complies with the standard as long as the overall light intensity of all the test points included within the group does not fall below the required minimum value of the group. (See 61 FR 1663; January 23, 1996) ("The photometric requirements for turn signal lamps may be met at zones or groups of test points, instead of at individual test points.")

Gillig, in concert with Hamsar Diversco (Hamsar), its lighting supplier, conducted a series of compliance testing for Generations 1 to 6. In order to accurately execute the testing, Hamsar used CAD drawings of the Gillig Low-Floor

to construct an aluminum test stand fixture. The test stand precisely matched the orientation and angle at which the turn signal would have been installed on a Gillig Low-Floor bus. Hamsar then conducted a series of tests measuring the PI output using samples of each of the available generations of turn signals. A summary of test data shows:

- a) For Generations 1 and 2 (the oldest generations), the assemblies meet the minimum photometric intensity (PI) requirements for 3 of 5 groups and allowable 60% of minimum PI at 13 of 19 individual test points. The turn signal's overall PI output of 1271 candelas is approximately 25% below the combined minimum requirements for all 5 groups (1710 candelas).
- b) For turn signals in Generation 3, the assemblies meet the minimum PI requirements of 3 of 5 test groups and allowable 60% of minimum PI at 13 of 19 individual test points. However, the overall PI output for Generation 3 turn signals of 2506 candelas is 47% greater than the combined minimum requirements for all 5 groups (1710 candelas).<sup>2</sup>
- c) For turn signals in Generation 4, the assemblies meet the minimum PI requirements for 3 of 5 test groups and

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<sup>2</sup> In addition, the integrated side markers for Generation 3 turn signals were tested and meet all photometric requirements.

allowable 60% of minimum PI at 15 of 19 individual test points. However, the overall PI output for Generation 4 turn signals of 2120 candelas is 24% greater than the combined minimum requirements for all 5 groups (1710 candelas).

d) For turn signals in Generation 5, the assemblies meet the minimum PI requirements for 2 of 5 test groups and allowable 60% of minimum PI 8 of 19 individual test points. However, the overall PI output for Generation 5 turn signals of 1403 candelas is only 18% below the combined minimum requirements for all 5 groups (1710 candelas).

e) For turn signal assemblies in Generation 6, the assemblies also meet the minimum photometric intensity for 3 of 5 test groups and allowable 60% of minimum photometric intensity for 12 of 19 individual test points. The overall photometric intensity output for Generation 6 turn signals of 4201 candelas is 146% greater than the combined minimum requirements for all 5 groups (1710 candelas).

Gillig states that for the test groups in each generation that meets the PI requirements, the values for those groups well exceed the minimum values for the group. The PI output for groups exceeding the minimum values in



Generations 1 and 2 achieve 119%-242% of minimum values. The PI output for Generation 3 turn signals achieve 105%-575% of minimum values. The PI output for Generation 4 turn signals achieve 109%-386% of minimum values. The PI output for Generation 5 turn signals achieve 224%-267% of minimum values. Finally, the PI output for Generation 6 turn signals achieve 114%-1022% of minimum values.

Gillig further contends that the turn signals are sufficiently bright and visible overall and there is little if any perceptible difference in light output when compared with a compliant turn signal. The comparisons also illustrate how visually similar the performance of the earlier generations of the assemblies are to the FMVSS No. 108 standard, and why their noncompliance garnered no attention, by Gillig or its customers, in over twenty years of production.

## **2. NHTSA has Previously Granted Petitions Where Lighting**

**Equipment Did Not Meet the Photometry Requirements:** Gillig contends that from its inception, the Safety Act has included a provision recognizing that some noncompliances pose little or no safety risk. In applying this recognition to particular fact situations, the agency considers whether the noncompliance gives rise to "a significantly greater

risk than...in a compliant vehicle." See 69 FR 19897-19900 (April 14, 2000).

Relying on this same principle, Gillig contends that despite the technical noncompliance with the PI requirements, the light output in Generation 1-6 turn signals is sufficiently bright and does not create a greater risk than turn signal assemblies that fully meet the photometric parameters. Gillig states that NHTSA has considered deviations from these photometric parameters on numerous occasions, frequently finding that there is no need for a recall remedy campaign when there are other factors contributing to the overall brightness of the equipment.

For example, the agency granted a petition by General Motors<sup>3</sup> where its turn signals met the photometry requirements in 3 of 4 test groups and produced, on average, 90% of the required PI output. For the three complying groups of turn signals, the assemblies exceeded the light intensity requirements by at least 20%.

Gillig further states that the agency granted similar petitions for inconsequential noncompliance where the

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<sup>3</sup> 61 FR 1663-1664 (January 22, 1996)

product did not meet the photometric intensity requirements.<sup>4</sup>

Here, because the PI output of the compliant test groups within Generations 3, 4 and 6 exceeds the candela requirements by a substantial margin, a range of 24% - 146% above the additional candela offsets the overall performance of the turn signals.<sup>5</sup>

Gillig observes that in some instances, involving reduced photometric output, NHTSA has denied the petition on the basis that the condition created a measurable impact on the driver's ability to see objects on or above the road.<sup>6</sup> In contrast, the only indication of such an impact involves the Generation 7 assemblies for which Gillig is in the process of conducting a recall remedy campaign. There is no indication that the deviation in performance for Generations 1-6 has led to any difficulty in seeing and responding to the turn signals, and as supported by the field history, the turn signal assemblies have operated successfully for years and in some cases decades.

Gillig states that the agency has long considered changes in light output in the range presented here as being visually imperceptible to vehicle occupants or other

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<sup>4</sup> 78 FR 46000 (July 30, 2013); 55 FR 37602 (September 12, 1990); 61 FR 1663 (January 22, 1996)

<sup>5</sup> 63 FR 70179 (December 18, 1998); 61 FR 1663-1664 (January 22, 1996)

<sup>6</sup> 66 FR 38340 (July 23, 2001)

drivers.<sup>7</sup> Gillig also states that the agency has noted that turn signals, unlike head lamps, do not affect road illumination so that a reduced amount of light output would not, by itself, create an increased risk to the public.<sup>8</sup>

Finally, according to Gillig, the environment in which the Gillig turn signals are used diminishes any potential risk to safety. Because the buses in which the subject turn signals are installed are predominantly public transit buses, they are managed by fleet operators and undergo regular maintenance and reviews by skilled technicians.<sup>9</sup> Part of that process includes a pre-trip inspection. That protocol requires a review of the bus's operating systems, including a review of the turn signals. Consequently, if the photometric intensity of the Generations 1-6 lights were inadequate, trained professional service personnel and drivers would have identified this over the years, and in some cases, decades of pre-trip inspections.<sup>10</sup> Gillig has never received a complaint, notice or report related to visibility concerns with the Generation 1-6 turn signals, underscoring the overall visibility of the turn signals.

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<sup>7</sup> 59 FR 65428 (December 19, 1994)

<sup>8</sup> 66 FR 38341 (July 23, 2001)

<sup>9</sup> The Typical life cycle for a public transit bus is either 12 years or 500,000 miles, meaning that the majority of the vehicles with Generation 1-6 turn signals may no longer be in service.

<sup>10</sup> 64 FR 44575 (August 16, 1999)

Gillig concluded by expressing the belief that the subject noncompliance is inconsequential as it relates to motor vehicle safety, and that its petition to be exempted from providing notification of the noncompliance, as required by 49 U.S.C. 30118, and a remedy for the noncompliance, as required by 49 U.S.C. 30120, should be granted.

3. **Supplemental Petition:** In April 2017, and as part of its ongoing quality review process, Gillig contracted with an independent lighting certification laboratory (Calcoast-ITL) to conduct a series of additional compliance tests for the turn signals included in Generations 1-6. In order to accurately execute the testing, CAD drawings of the front of the Gillig Low-Floor bus were used to construct an aluminum test stand fixture. The test stand precisely matched the orientation and angles at which the right and left front turn signals would have been installed on the bus. The laboratory then conducted a series of tests measuring the PI output using samples of each of the available generations of turn signals. The testing was certified to have been conducted in accordance with the FMVSS 108 Test Procedure (TP-108-13). A summary of the test data provides:

- a) For Generations 1 and 2 (the oldest generations), the assemblies meet the minimum photometric intensity (PI)

requirements for 3 of 5 groups and allowable 60% of minimum PI at 13 of 19 individual test points. The turn signal's overall PI output of 1364 candelas is approximately 20% below the combined minimum requirements for all 5 groups (1710 candelas).

b) For turn signals in Generation 3, the assemblies meet the minimum PI requirements of 3 of 5 test groups and allowable 60% of minimum PI at 15 of 19 individual test points. However, the overall PI output for Generation 3 turn signals of 2387 candelas is 40% greater than the combined minimum requirements for all 5 groups (1710 candelas).<sup>11</sup>

c) For turn signals in Generation 4, the assemblies meet the minimum PI requirements for 4 of 5 test groups and allowable 60% of minimum PI at 15 of 19 individual test points. However, the overall PI output for Generation 4 turn signals of 3307 candelas is 93% greater than the combined minimum requirements for all 5 groups (1710 candelas).

d) For turn signals in Generation 5, the assemblies meet the minimum PI requirements for 2 of 5 test groups and allowable 60% of minimum PI 12 of 19 individual test

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<sup>11</sup> In addition, the integrated side markers for Generation 3 turn signals were tested and meet all photometric requirements.

points. However, the overall PI output for Generation 5 turn signals of 2385 candelas is only 39% below the combined minimum requirements for all 5 groups (1710 candelas).

- e) For turn signal assemblies in Generation 6, the assemblies also meet the minimum photometric intensity for 4 of 5 test groups and allowable 60% of minimum photometric intensity for 17 of 19 individual test points. The overall photometric intensity output for Generation 6 turn signals of 5655 candelas is 231% greater than the combined minimum requirements for all 5 groups (1710 candelas).

Thus, the new PI output for groups that exceed the minimum values are:

- Generations 1 and 2 achieve 122% - 267% of minimum values.
- Generation 3 achieves 192% - 428% of minimum values.
- Generation 4 achieves 125% - 598% of minimum values.
- Generation 5 achieves 367% - 445% of minimum values.
- Generation 6 achieves 143% - 1185% of minimum values.

As a result, the groups that exceed the minimum values in each lamp compensate for the groups that are below the minimums to the extent that the overall PI outputs of the most recent

four generation of lights (Generations 3-6) significantly exceed the overall PI output required for a front turn signal lamp (1710 candelas).

As part of Gillig's supplemental petition, they submitted a video which shows a side-by-side comparison of Generation 1-6 turn signal assemblies with a newer generation of turn signal that exceeds all FMVSS No. 108 minimum requirements for photometry. Gillig says that the comparisons were performed with the lights in their various generations installed on the same bus as it is driven through a turning maneuver (filmed indoors to control ambient lighting throughout the comparisons). Gillig believes that it is evident from the multiple angles in the video that the lights from Generation 1-6 are so bright and large that they are virtually indistinguishable from the newer version.

To view Gillig's petition analyses, test data and video in its entirety you can visit <https://www.regulations.gov> by following the online instructions for accessing the dockets and by using the docket ID number for this petition shown in the heading of this notice.

NHTSA notes that the statutory provisions (49 U.S.C. 30118(d) and 30120(h)) that permit manufacturers to file petitions for a determination of inconsequentiality allow NHTSA to exempt manufacturers only from the duties found in sections



30118 and 30120, respectively, to notify owners, purchasers, and dealers of a defect or noncompliance and to remedy the defect or noncompliance. Therefore, any decision on this petition only applies to the subject buses that Gillig no longer controlled at the time it determined that the noncompliance existed. However, any decision on this petition does not relieve vehicle distributors and dealers of the prohibitions on the sale, offer for sale, or introduction or delivery for introduction into interstate commerce of the noncompliant vehicles under their control after Gillig notified them that the subject noncompliance existed.

**Authority:** (49 U.S.C. 30118, 30120: delegations of authority at 49 CFR 1.95 and 501.8)

**Jeffrey M. Giuseppe,**

Director,

Office of Vehicle Safety Compliance.

**Billing Code 4910-59-P**

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